

**ODONTOTHIRIPS CONFUSUS PRIESNER (THYSANOPTERA:  
THRIPIDAE) NEW TO BRITAIN AND RECENT RECORDS OF  
OTHER BRITISH THIRIPS**

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ABSTRACT

*Odontothrips confusus* Priesner, a species from central Europe is reported for the first time in Britain, at Friday Wood, south of Colchester, Essex. Information on its identification and biology is provided. This is the first addition of a species of thrips to the British list from specimens found in a natural habitat since 1974. Also recorded here is a second non-indigenous species, *Scirtothrips inermis* Priesner, which was found breeding outdoors at the Chelsea Physic Garden in London; in this case the probability is that the thrips were there as the result of an accidental introduction by man. A brief review of new British records of thrips since the publication of the last check list in 1976 is provided and the bias towards adventive horticultural records in protective cultivation is discussed. New county records are given for twenty-nine species of thrips from eight counties.

INTRODUCTION

The last published check list of Thysanoptera recorded in Britain listed 158 species (Mound *et al.*, 1976). Since then, thrips have increasingly been recognised throughout the world as major crop pests, both as a result of their direct feeding damage and also because of their role in vectoring plant tospoviruses. Most researchers working on thrips in Britain are agricultural scientists and the majority of recent British literature on thrips reflects this. Over the past three decades or so, much research has been carried out with the aim of developing chemical and biological means of control for thrips populations found under glass in this country. Much of this work has been spurred on by the arrival in the UK of new horticultural pest species that originate from the Americas and elsewhere. The arrival, and spread, of such species has been well documented by agricultural and quarantine entomologists (albeit largely as unpublished records), as has the continuing interception of yet further species that are being transported into the country on plant material. By contrast, there has been very little investigation of thrips in natural habitats in Britain during this period. This is merely a continuation of the historical trend. Very few entomologists have ever collected thrips in this country; as a result, individual workers have heavily influenced the pattern of distribution records throughout Britain. The best coverage is to be found in the south-east of England. Elsewhere, the north-east corner of Scotland has been particularly heavily collected relative to much of the rest of the country almost entirely due to the long tenure of Guy Morison at the North of Scotland College of Agriculture in Aberdeen during the middle decades of the last century. The purpose of this paper is twofold. Firstly, the finding of two species of thrips hitherto not recorded from Britain is reported. Secondly, information is provided so as to help bring the literature up-to-date for a number of species, with the current status of certain thrips in this country discussed and new geographical distribution records provided for others. Information is

provided for species both restricted to glasshouses and found naturally outdoors in the UK.

#### *ODONTOTHIRIPS CONFUSUS*, NEW TO BRITAIN

Two adult female *Odontothrips confusus* Priesner, were collected during a British Entomological and Natural History Society (BENHS) field meeting at Friday Wood, south of Colchester, Essex on 19.vii.2003. The species determination was made using keys by Pitkin (1972) and Strassen (2003) and after comparison with specimens of *O. confusus* and other species in the collections of the Natural History Museum, London (NHM).

The genus *Odontothrips* Amyot & Serville comprises 27 species, with most species apparently feeding exclusively in the flowers of the family Fabaceae (Pitkin, 1972). All but two of the species are naturally found in the Palaearctic region. *Odontothrips confusus* is found across central Europe (including Germany) and the Balkans, and has also been recorded from France (the Rhône Valley), Spain, Italy and Turkey (Pitkin, 1972; Fauna Europaea, 2004). The species is primarily found in the flowers of *Medicago* species (Fabaceae), particularly cultivated lucerne *Medicago sativa* L., on which it has been reported as a pest (Bournier & Kochbav, 1965). Other recorded host associations include: *Coronilla vulgaris* (sic), *Lotus corniculatus* L., *Trifolium repens* L. and *T. pratense* L. (all Fabaceae) as well as *Artemisia absinthium* L. (Asteraceae) and *Eryngium campestre* L. (Apiaceae) (Pitkin, 1972).

Friday Wood, located 4 km south of the centre of Colchester, forms the main part of the Roman River Valley SSSI. The core of the site is ancient deciduous woodland, with secondary woodland and scrub extending onto a sandy plateau. To the west and east of the woodland core, hawthorn and blackthorn-dominated scrub areas are interspersed with open grassland and heathland. To the south, in the valley bottom itself, there is an area of wetland with a strip of fen, reedbank and riverbank vegetation following the river, reduced at this stage to little more than a wide stream. The two thrips females were found in the flowers of gorse, *Ulex europaeus* L. (Fabaceae) and ragwort, *Senecio* sp., (Compositae) respectively, the two plants spaced about 50 metres apart, on the north-east margin of the woodland core at the point where it gives way to scrubby heathland.

The author made two further visits to the area, in August 2003 and July 2004, but was unable to find any lucerne in the local vicinity. During these visits *L. corniculatus* was found to be growing in the grassland to the west of the woodland. The flowers of these plants were carefully searched but whilst *Odontothrips loti* (Haliday), *Sericothrips bicornis* (Karny) and *Frankliniella intonsa* (Trybom) were all collected, no further specimens of *O. confusus* were found.

It is not possible to accurately identify where lucerne is currently being grown in this country. Statistical records maintained by the Department for Environment, Food and Rural Affairs (Defra) record lucerne only in combination with other fodder crops such as clover, sainfoin and grasses. However, the Pesticide Usage Survey Team at the Central Science Laboratory (CSL) undertakes annual surveys of pesticide usage in selected sectors of the agricultural and horticultural industries, sampling for grassland and fodder crops every four years. Their records show that at least in 1993, and again in 2005, lucerne was being grown in Essex (David Garthwaite, CSL, pers. comm.). As lucerne has been grown in Essex in the recent past, it is also possible that self-seeded flowers are around.

Thrips are weak fliers, but nevertheless are capable of staying airborne for considerable distances (Lewis, 1996), certainly for distances far beyond that surveyed

by the author on his three visits to Friday Wood. The breeding source of the thrips and hence the status of this species in Britain could not be determined; that is, whether these individuals represent an established population in the locale or a transient invasion possibly even originating from the continent (see Lewis, 1973, for a summary of the evidence for long-distance travel by thrips). There is no theoretical reason why cross-channel transient migration in thrips should not occur though there is no strong direct evidence either for or against the proposition. Mound *et al.* (1976) did, however, suggest several species whose, infrequently recorded, presence in Britain might be the result of immigration on warm southerly winds. Indeed, of the species of thrips recorded in the British list (omitting species restricted to glasshouses), seven are known in Britain only from single individuals, and another seven species have been collected on only one occasion; a further 12 species have been recorded four times or less (Mound *et al.*, 1976). Many of these species are recorded only from southern coastal counties, and overall the majority of these records are restricted to counties in the south of England; few have been found in the north (and one of these, *Apterothrips apteris* (Daniel), was clearly introduced into Britain via Scotland (Collins, 2000a)). Thrips, however, are not conspicuous migrants and this, considered together with the paucity of potential recorders to meet any incoming individuals, might suggest that even isolated records are likely to be indicative of a considerable number of additional individuals then present in the wider area, even if permanent establishment of a species does not ultimately take place.

The two voucher specimens of *O. confusus* have been donated to the collections at the Natural History Museum, London.

#### IDENTIFICATION OF *ODONTOTHRIPS CONFUSUS*

Seven species of *Odontothrips* have previously been recorded from Britain (Mound *et al.*, 1976): three of these species (*O. biuncus* John, *O. cytisi* Morison and *O. ulicis* (Haliday)) have two prominent, ventrally-positioned, curved claws protruding forward from the apical edge of each fore tibia, each as long or longer than the neighbouring setae; two species (*O. loti* (Haliday) and *O. phalaratus* (Haliday)) have a single, otherwise similar, claw and a bristle-bearing tubercle (Fig. 1a); and two species (*O. ignobilis* Bagnall and *O. meliloti* Priesner) lack the prominent claws but bear instead an apical bristle-bearing tubercle and a small ventrally-positioned tooth (Fig. 1b). *Odontothrips confusus* also lacks prominent fore-tibial claws, but bears two small apical teeth sited on the ventral/inner margin, clearly smaller than the neighbouring setae (Fig. 1c; Plate 2, Figs 1 & 2).

Whereas in *O. ignobilis* the disc of the pronotum has clear, albeit faint lines of sculpture (Fig. 1d), *O. confusus* resembles *O. meliloti* in lacking such sculpture medially on the pronotum (Fig. 1e). At most, some transverse lines of sculpture are present slightly anterior to the posterior margin of the pronotum.

*Odontothrips confusus* is brown except for antennal segment III, which is bright yellow, and the tarsi and the fore-tibiae, which are yellow-brown (Plate 2, Fig. 1). Antennal segment IV is as dark as segment V. By contrast, in most specimens of *O. loti* antennal segment III is yellowish-brown and segment IV intermediate between this and the darker brown of segment V. The lines of sculpture in *O. confusus* extend medially between the S1 setae on tergites II and III. The Friday Wood specimens lack metanotal campaniform sensillae. The majority of specimens of *O. confusus*, *O. meliloti* and *O. ignobilis* examined by the author in the collections of the NHM do

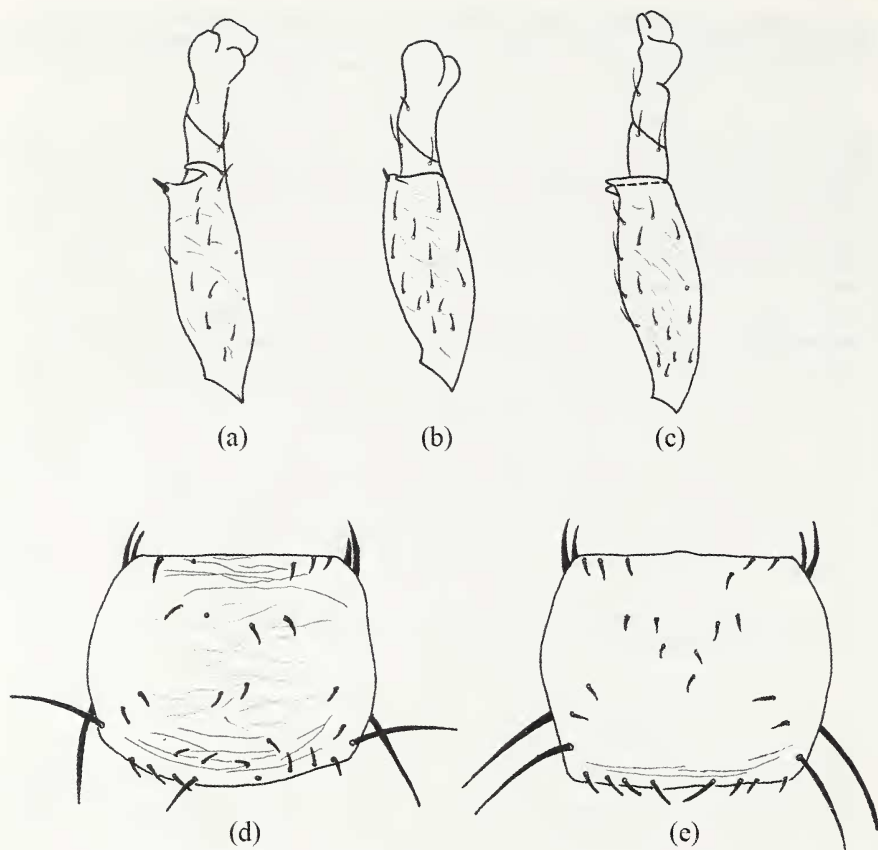


Figure 1. (a) *Odontothrips loti* ♀, right fore tibia and tarsus, ventral view; (b) *O. meliloti* ♀, right fore tibia and tarsus, ventral view; (c) *O. confusus* ♀, right fore tibia and tarsus, ventral view; (d) *O. ignobilis* ♀, pronotum; (e) *O. confusus* ♀, pronotum.

possess campaniform sensillae but, for each of the three species, specimens were seen in which they are absent.

Another central European species, *O. dorycnii* Priesner, known from the flowers of *Dorycnium* spp. (sometimes included in the genus *Lotus*), is very similar to *O. confusus*; the females of the two species are essentially separable only by size with *O. confusus* the larger species (though the genitalia of the two males are clearly distinct from each other). No specimens of *O. dorycnii* were available at the NHM for study, but various length measurements taken from the two Friday Wood females clearly aligned these specimens with the measurements for *O. confusus* rather than those for *O. dorycnii*, as provided firstly by Pitkin (1972)—hind tibia in the Friday Wood specimens 220–240  $\mu\text{m}$ —and secondly by Strassen (2003)—antennal length 360–376  $\mu\text{m}$ , antennal segment III length 64–70  $\mu\text{m}$ , antennal segment V length 42–45  $\mu\text{m}$ , antennal segment VIII length 19–22  $\mu\text{m}$ , and length of seta S1 on tergite IX 160–168  $\mu\text{m}$ .





Fig. 1. Adult female *Odontothrips confusus*.



Fig. 2. *Odontothrips confusus*, apex of the right fore-tibia.



Fig. 3. Small Tortoiseshell *Aglais urticae* ab. *conjuncta*, Bradwell, Great Yarmouth, 4th September 2005.



Fig. 4. Spittle mass of *Aphrophora salicina* nymphs feeding (3x) on creeping willow, Dungeness, Kent, 25th May 2006.



Fig. 5. Large spittle mass of *A. salicina* (1.5x) on grey willow, Dungeness, Kent, 25th May 2006.



The section of the RES key for the genus *Odontothrips* (Mound *et al.*, 1976) should therefore be amended as follows:

- 1 Fore tibia without distinct apical claws . . . . . 2
- Fore tibia with 1 or 2 apical claws . . . . . 3
- 2 Pronotum with lines of sculpture medially in both sexes; apex of the fore tibia with a small ventral tooth and a tubercle bearing a bristle on the inner margin; ♂ genitalia with 4 or 5 (rarely more) pairs of endothelial spines which are almost equally spaced and which decrease in size distally. . . . . **ignobilis** Bagnall
- Pronotum with no lines of sculpture medially in either sex; apex of the fore tibia with a small ventral tooth and a tubercle bearing a bristle on the inner margin; ♂ genitalia with 3 or 4 pairs of endothelial spines, the basal pair set apart and usually larger. . . . . **meliloti** Priesner
- Pronotum with no lines of sculpture medially in either sex; apex of the fore tibia with two small teeth on the ventral/inner margin, but no apical bristle; ♂ genitalia with two pairs of fairly stout endothelial spines supported by canaliculi . . . . . **confusus** Priesner

#### NEW BRITISH RECORDS SINCE 1976 AND THE IMPORTATION OF THRIPS INTO BRITAIN

Until now, no further named species of thrips have been added to the British list on the basis of specimens found outdoors in a natural habitat since Pitkin & Palmer (1974) described *Dendrothrips eastopi* from specimens collected from leaves of *Hedera helix* L. from Kew Gardens. Prior to that, Pitkin (1969) had added four species after examining material held by the NHM. This was based on specimens originally collected between 1947 and 1966, the latter being *O. meliloti* (collected by Laurence Mound at Ham in Surrey, 12.vi.1966, though specimens from Somerset collected in 1946 by Guy Morison were subsequently identified). In 1984, specimens of an undescribed species of *Hoplothrips* formed part of the thrips assemblage collected after mature oak trees (*Quercus robur* L.) in a wood in Richmond, Surrey, were subjected to survey by means of canopy fogging (Palmer, 1986), but these were not later described. Since then, the only thrips that have been continually and systematically collected in this country have been those found under glass, or found to be moving in plant trade. This collecting work has been carried out by the Plant Health and Seeds Inspectorate (PHSI) of Defra.

During this period, two pests of protected crops have been introduced to Britain and become widespread under glass in England and Wales, *Frankliniella occidentalis* (Pergande), known as the western flower thrips (Baker *et al.*, 1993), and *Echinothrips americanus* Morgan (Collins, 1998).

In addition, three new species have been described from type material collected in England, the latter two species having been originally collected by the PHSI. The first, *Psydrothrips kewi* Palmer & Mound, was found under glass at the Royal Botanic Gardens, Kew, where it was causing damage to the leaves of a number of *Philodendron* plants. This species appears to be related to certain New World genera and the thrips is therefore presumed to have been imported into Kew on *Philodendron* plants from Central or South America (Palmer & Mound, 1985). *Suocerathrips linguis* Mound & Marullo, was also discovered under glass at Kew and is apparently restricted to plants in the African genus *Sanseveria* (including Mother-in-Law's Tongue). The population had clearly been introduced into the house with the plants and like them must be presumed to have an African origin (Mound & Marullo, 1994) (also found on the Kew *Sanseveria* was a single female of

*Karnyothrips melaleucus* (Bagnall), a predator of scale insects that is widespread in the tropics, a first British record). The third species, *Sinuothrips hasta* Collins, was described from specimens collected after fumigation of thatching reed, *Phragmites australis* (Cavanilles), on a domestic roof in Devon. The reed had recently been imported from Turkey (Collins, 2000b). None of these species, therefore, is naturally British. The current status of *P. kewi* at Kew is not known to the present author, but in the other two cases the populations were eradicated by the plant health authorities.

Commercially traded cut flowers, and other plant material, are the source of continual importation of non-indigenous thrips into Britain. Between April 1995 and December 2005, in addition to species discussed elsewhere in this paper, a minimum of 54 different species of non-indigenous thrips representing 29 genera were intercepted by the plant health service of England and Wales (CSL, unpublished records). Commercially traded cut flowers were the most common source, but on occasion thrips were also found under glass in public and private botanical collections. In most of these cases, the number of thrips present was very small, and the context of the interception implied almost no chance of the population establishing itself. However, occasionally small populations were still present on their host of introduction some months later; that is, their presence was not detected immediately upon arrival. In each case, once the population was discovered, it was eradicated; it therefore seems very likely that not one of these species is currently to be found in Britain. Very few of these species, most of which originate in the tropics or subtropics, would have any more than a low probability of overwintering outdoors under British conditions, even with the onset of predicted climate change. In the case of one large outbreak of the quarantine-listed species *Thrips palmi* Karny at a commercial glasshouse, eradication though ultimately successful proved to be a major undertaking (MacLeod *et al.*, 2004).

There was only one instance of such a species found to be breeding outside; small numbers of both adults and larvae of *Scirtothrips inermis* Priesner were found on the leaves of a large established bay laurel (*Laurus nobilis* L.) at the Chelsea Physic Garden in London (27.vii.2000, C.P. Malumphy). The tree was being treated for an infestation of the recently introduced whitefly pest *Bemisia afer* (Priesner & Hosny) and the population may have been eradicated. However, the host tree has not been checked for the thrips in subsequent years, nor has there been any attempt to search for the species elsewhere in the surrounding area. There remains, therefore, uncertainty as to the current status of *S. inermis* in this country. The thrips is known from the Mediterranean area and the Atlantic islands off the north-west African coast, and it has also been introduced into Australia, California and New Zealand. It is associated with a number of different plants including *Begonia*, *Citrus*, *Ilex*, *Myrtus*, *Prunus*, *Rosa*, *Rumex* and *Tamarix*. The route by which it came to be introduced into the garden is unknown.

Of the 158 species listed in the last British list, 11 are described as being found only under artificial conditions, and the following notes on the current status of these species in Britain are based on CSL unpublished records. Three of these species, *Heliothrips haemorrhoidalis* (Bouché), *Parthenothrips dracaenae* (Heeger) and *Hercinothrips femoralis* (Reuter), continue to be frequently encountered under glass, particularly in heated houses, and clearly maintain a continual presence in Britain. Indeed, *H. haemorrhoidalis* has recently been recorded breeding outside, in the Scilly Isles and at the Royal Botanic Gardens, Kew (Robinson & Collins, 2005). *Chaetanaphothrips orchidii* (Moulton) has been confirmed from the same temperate-conditions glasshouse at a complex open to the public in the north-west



of England, in 2001 and then again at the end of 2003, both times on *Sparmannia africana* L. (Tiliaceae). This species, therefore, is currently known to be present and breeding here. *Heliothrips errans* (Williams) and *Herciothrips bicintus* (Bagnall) have each been recorded once under glass in recent years, but this may well represent isolated re-introductions rather than sustained continuity and their long-term status remains unclear. No recent records exist for *Aurantothrips* (= *Anaphothrips*) *orchidaceus* (Bagnall), *Dichromothrips orchidis* Priesner, *Leucothrips nigripennis* Reuter or *Scirtothrips longipennis* (Bagnall) and these are probably not currently to be found in Britain. The final species is *Gynaikothrips ficorum* (Marchal), a species easily found in Mediterranean countries by searching out rolled-up leaves of the decorative tree *Ficus microcarpa* L., its sole plant host. These have not been seen in Britain since a small breeding population was discovered at a nursery in Surrey in 1992 (Collins, 1993).

One species in the British list on the basis of a single individual found outdoors is of interest for it seems unlikely to have reached Britain naturally. *Frankliniella schultzei* (Trybom) is listed on the basis of a single female collected on *Pinus* sp. (not a natural host) in Berkshire in 1914. This species, a polyphagous flower thrips, is widespread throughout the tropics and subtropics and is also found in the Mediterranean area. Further north in Europe, it is known (with one exception) only from regular quarantine interceptions in association with imported cut flowers, and occasional findings in glasshouses. The one exception is The Netherlands, where in recent decades it has become established in glasshouses specialising in the Cactaceae (Vierbergen & Mantel, 1991). A single adult female was caught on a sticky trap in a British commercial glasshouse in 2001 (which had almost certainly escaped from a neighbouring packing house for imported cut flowers) but that is the only other occasion on which any individual has been found outside of cargo sheds at ports-of-entry or in warehouses and other indoor premises belonging to wholesale distributors of cut flowers. If this species were present in the UK, it would surely have been discovered during the extensive survey work carried out during the eradication campaign against *F. occidentalis* (1986–1989) or during more recent surveys for *T. palmi*. There is no evidence to suggest that *F. schultzei* is, or has ever been, present in the UK as a breeding population. It would seem that the sole finding in Berkshire was, despite the odds, the most fortuitous finding of an isolated escapee, originally imported into Britain on traded plant material.

#### NEW COUNTY RECORDS

Mound *et al.* (1976) provided county distribution records (using the pre-1974 county divisions) for all the species that they listed. In the absence of any systematic collecting since then, it is almost certain that any species found by the current author in counties for which they are not recorded in the *RES Handbook* will represent true new county records. Details of such records are given in Table 1 for 29 species across eight counties (Cambridgeshire, Essex, Hampshire, Lancashire, Middlesex (North London), Northamptonshire, Suffolk and Yorkshire as per the *RES Handbook*, although it is also here indicated, as appropriate, whether records are from East, North or West Yorkshire).

It should be noted that thrips are readily carried by winds and so adults are often found on plants on which they do not breed. In the absence of confirmed breeding, plant records should always be treated as associations rather than as true host records.

Table 1. Thysanoptera: new county records.

**Aeolothripidae**

<i>Aeolothrips intermedius</i> Bagnall	NORTHAMPTONSHIRE: Bradlaugh Fields, Northampton, on <i>Convolvulus arvensis</i> , 1♀, 28.vi.03. NORTH YORKSHIRE: Osbaldwick, York, on <i>Ranunculus</i> sp., 1♂, 23.v.98; York cemetery, on <i>Chrysanthemum leucanthemum</i> , 1♀, 31.v.98.
<i>Aeolothrips melaleucus</i> Bagnall	NORTH YORKSHIRE: York cemetery, on leaf of <i>Fraxinus</i> sp., 1♀, 17.v.98.
<i>Aeolothrips tenuicornis</i> Bagnall	NORTHAMPTONSHIRE: Bradlaugh Fields, Northampton (on <i>Convolvulus arvensis</i> , 1♀, 28.vi.03; on <i>Galium verum</i> , 1♂, 28.vi.03).

**Thripidae**

<i>Anaphothrips obscurus</i> (Müller)	SUFFOLK: RSPB reserve at Lakenheath Fen (on <i>Phragmites australis</i> , 1♀ macr., 1♀ micr., 24.vii.04; on grasses, 1♀ macr., 24.vii.04).
<i>Dendrothrips degeeri</i> Uzel	NORTH YORKSHIRE: York cemetery (on <i>Fraxinus</i> sp., 5♀, 17.v.98; on unidentified tree, 3♀, 3.v.99; on <i>Fraxinus</i> sp., 1♀, 4.vi.02), Tadcaster, on leaf of <i>Aesculus</i> sp., 1♀, 12.v.03.
<i>Frankliniella intonsa</i> (Trybom)	NORTH YORKSHIRE: Strensall Common (beaten from an unidentified plant, 2♀, 23.iii.02; on <i>Ulex europaeus</i> , 1♀, 10.v.03; beaten from an unidentified plant, 2♀ 2♂ 7 imms, 01.vi.04). WEST YORKSHIRE: Harewood, on <i>Ulex europaeus</i> , 1♀, 10.v.04.
<i>Frankliniella tenuicornis</i> (Uzel)	NORTH YORKSHIRE: Ripley, on a ? <i>Crataegus</i> sp. hedgerow, 2♀, 30.iii.02.
<i>Mycterothrips consociatus</i> (Targioni-Tozzetti)	NORTH YORKSHIRE: Skipwith Common, on ? <i>Betula</i> sp. leaf, 1♀, 30.v.98.
<i>Odontothrips loti</i> (Haliday)	ESSEX: Friday Wood, Colchester, in <i>Lotus corniculatus</i> flowers, 2♀ 1♂, 12.vi.04.
<i>Odontothrips ulicis</i> (Haliday)	ESSEX: Epping Forest, in <i>Ulex europaeus</i> flowers, 6♀, 11.iv.02. EAST YORKSHIRE: Flamborough, on <i>U. europaeus</i> , 4♀, 1998 (Justy Clark). NORTH YORKSHIRE: Strensall Common (in <i>U. europaeus</i> flowers, 2♀, 27.iv.98; on <i>U. europaeus</i> , 5♀, 3♂, 23.iii.02; on unidentified plant, 1♀, 23.iii.02; on <i>U. europaeus</i> , 1♀, 14 imms, 11.v.02; on <i>U. europaeus</i> , 1♀, 10.v.03). WEST YORKSHIRE: Harewood, in <i>U. europaeus</i> flowers, 4♀ 2♂ 3 imms, 10.v.04.
<i>Oxythrips ajugae</i> Uzel	NORTH YORKSHIRE: York cemetery, on <i>Taraxacum</i> sp., 1♀, 17.v.98; Strensall Common (on <i>Pinus</i> sp., 3♀, 1♂, 25.iv.99; on <i>Pinus</i> sp., 23♀, 2♂, 1.v.02; beaten from grasses, 1♀, 11.v.02).
<i>Rubiothrips silvarum</i> (Priesner) <sup>1</sup>	NORTHAMPTONSHIRE: Bradlaugh Fields, Northampton, on <i>Galium verum</i> , 8♀, 28.vi.03.
<i>Sericothrips bicornis</i> (Karny)	ESSEX: Friday Wood, Colchester, in <i>Lotus corniculatus</i> flowers, 2♀ micr., 12.vi.04.
<i>Sericothrips staphylinus</i> Haliday	NORTHAMPTONSHIRE: Bradlaugh Fields, Northampton, on <i>Ulex europaeus</i> , 1♀ macr. 3 imms, 28.vi.03.
<i>Stenothrips graminum</i> Uzel	NORTHAMPTONSHIRE: Bradlaugh Fields, Northampton, on <i>Ulex europaeus</i> , 1♂, 28.vi.03.

(continued)

Table 1. (continued)

**Thripidae (continued)**

<i>Taeniothrips inconsequens</i> (Uzel)	NORTH YORKSHIRE: York cemetery (on <i>Quercus</i> sp., 1♀, 17.v.98; on <i>Fraxinus</i> sp., 1♀, 17.v.98; host unknown, 1♀, 3.v.99); Tadcaster (on unidentified tree, 2♀, 2.v.99; on <i>Prunus</i> sp., 1♀, 12.v.03); Ripley, 3♀ on unidentified seedlings, 3♀, 30.iii.02.
<i>Taeniothrips picipes</i> (Zetterstedt)	WEST YORKSHIRE: Eccup, on <i>Stellaria</i> sp., 4♀, 10.v.04.
<i>Thrips major</i> Uzel	NORTHAMPTONSHIRE: Bradlaugh Fields, Northampton (on <i>Cytisus scoparius</i> , 6♀ 2♂, 28.vi.03; on <i>Galium verum</i> , 1♀, 28.vi.03; on <i>Tanacetum vulgare</i> , 1♀, 28.vi.03).
<i>Thrips minutissimus</i> L.	MIDDLESEX: Hampstead Heath (on young <i>Sorbus ?aria</i> , 1♀, 10.iv.02; beating dead branches, 2♀ 1♂, 10.iv.02). NORTH YORKSHIRE: Skipwith Common, on <i>Ranunculus</i> sp., 1♀, 30.v.98; Strensall Common, on <i>Pinus</i> sp., 1♀, 11.v.02.
<i>Thrips physapus</i> L. <sup>2</sup>	NORTH YORKSHIRE: Strensall, on <i>Taraxacum</i> sp., 1♀, 27.iv.98. (Ward's Principle Component (wpc) = 425.4)
<i>Thrips pillichii</i> Priesner	NORTH YORKSHIRE: Strensall, on unidentified tree flower, 1♀, 27.iv.98.
<i>Thrips sambuci</i> Heeger	SUFFOLK: RSPB reserve at Lakenheath Fen, on <i>Sambucus nigra</i> , 7♀, 24.vii.04.
<i>Thrips trehernei</i> Priesner <sup>2</sup>	NORTHAMPTONSHIRE: Bradlaugh Fields, Northampton, on <i>Tanacetum vulgare</i> , 2♂, 28.vi.03. NORTH YORKSHIRE: York cemetery (on <i>Taraxacum</i> sp., 1♀, 17.v.98 (wpc = 469.7); on <i>Taraxacum</i> sp., 3♀, 8.vi.02 (wpc = 462, 509, 530)); Strensall, on <i>Taraxacum</i> sp., 1♀, 27.iv.98 (wpc = 473.53).
<i>Thrips urticae</i> Fabricius	HAMPSHIRE: Exton, on <i>Urtica dioica</i> , 7♀ 1♂, 27.viii.03. SUFFOLK: RSPB reserve at Lakenheath Fen, on grasses, 1♀, 24.vii.04.

**Phlaeothripidae**

<i>Haplothrips aculeatus</i> (Fabricius)	CAMBRIDGESHIRE: Wicken Fen, on grasses, 1♀ 2♂, 18.v.02. SUFFOLK: RSPB reserve at Lakenheath Fen, on <i>Phragmites australis</i> , 6♀ 3♂, 24.vii.04.
<i>Haplothrips distinguendus</i> (Uzel)	NORTH YORKSHIRE: Askham Bog, on alder leaf, 1♀, York, 9.v.98 (Justy Clark).
<i>Haplothrips juncorum</i> Bagnall	LANCASHIRE: Crossens Marsh, Southport, 1♀, 10.v.99 (L. Banks). NORTH YORKSHIRE: Askham Bog, York, on grasses, 1♂, 03.vii.04.
<i>Haplothrips leucanthemi</i> (Schränk)	MIDDLESEX: Hampstead Heath, in <i>Chrysanthemum leucanthemum</i> flowers, 3♀ 2♂, 13.vi.04.
<i>Hoplandrothrips bidens</i> (Bagnall)	SUFFOLK: RSPB reserve at Lakenheath Fen, on <i>Salix</i> sp., 1♀, 24.vii.04.

<sup>1</sup>See also Boyd (2004); <sup>2</sup>the males of *T. physapus* and *T. trehernei* (= *T. hukkineni* in the *RES Handbook* (Gentile & Bailey, 1968)) are separable by colour; separation of the females is more problematic and can only be partially achieved using a discriminatory function that distinguishes two segregates based on size (Ward, 1968).

Some of these records undoubtedly reflect the paucity of previous collecting in the area rather than any hitherto unrealised geographical shift. Other records, however, are of more particular interest.

*Dendrothrips degeeri* Uzel is common on the leaves of ash trees in York cemetery in late spring (collected between 1998 and 2002 by the author), and the capture of a female in Tadcaster in May 2003, 13 km to the south west, suggests that this may not be an isolated population. Yet previously, the species was only recorded from southern England, south of a line between Norfolk and Gloucestershire.

A single female of *Mycterothrips consociatus* (Targioni-Tozzetti) collected 30.v.1998 on scrubland adjacent to Skipwith Common, North Yorkshire, is likewise the most northerly British record for this uncommon species, which has previously only been noted from south-east England and Norfolk.

*Odontothrips ulicis* (Haliday), a host-specialist found in the flowers of gorse at the very beginning of spring, was already known to be widespread across many parts of Britain such as south-east, south-west and the far north of England, as well as Scotland. Certainly in Yorkshire (where it had not been previously recorded) the species appears to be common from Flamborough Head in the east to the area north of Leeds in the west. It might be expected that the species would therefore be found wherever gorse is growing; this species of thrips is not difficult to find. The absence of records from Wales and from the east and west Midlands is therefore intriguing, and worth investigating. The host plant is present across these regions. Does the absence of the thrips merely reflect a gap in field collecting, or does it point to some underlying biological factor across time and space, some variation in the relationship between the thrips and its plant host?

*Sericothrips bicornis* (Karny) recorded from Friday Wood, Essex, 12.vi.2004, is a specialist on *L. corniculatus* (bird's foot trefoil) that is reputedly uncommon in southern England, with previous records only from Kent, Surrey and Norfolk. It is difficult to assess the current status of this thrips. This thrips hides away in the small, closed flowers of its host and it is easily overlooked by entomologists.

*Thrips urticae* Fabricius, found in the flowers of the common nettle, appears to be uncommon. The author searched for this species in south-central and south-east England throughout the summer of 2003 without success before the discovery of a small population in late August at the hamlet of Exton in Hampshire. Here, a number of individuals were beaten from a single plant along with specimens of *T. tabaci*. Other plants growing in the same row in front of a fence were clean of any thrips of either species. The single *T. urticae* taken at Lakenheath Fen, 24.vii.2004, was beaten from grasses. None of the nettles in the area hosted any thrips.

*Haplothrips aculeatus* (Fabricius) was previously known only from Oxfordshire and Norfolk. Findings at Wicken Fen (Cambridgeshire), 18.v.2002, and Lakenheath Fen (Suffolk, although immediately adjacent to the border with Norfolk), 24.vii.2004, indicate that this species is more widespread across the East Anglian fens than hitherto realised. It is particularly common at Lakenheath Fen where it is present in large numbers in the beds of common reed.

The single female of *Haplothrips distinguendus* (Uzel) found at Askham Bog, near York, 9.v.1998, is the most northerly county record for this species (previously Shropshire), which was previously known only from nine counties in England and Wales.

Previous records of *Haplothrips juncorum* Bagnall were limited to ten counties south of Berkshire and Norfolk plus an isolated record from Cumberland. The records reported here from suitable habitats, with beds of rushes, at Crossens Marsh, Lancashire, 10.v.1999, and at Askham Bog, North Yorkshire, 03.vii.2004, partially